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| 10/670,675 | 09/24/2003 | Anna Rosa Coden | YOR920030426US1 | 7520 |

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| EXAMINER | |
|---|---|
| JACKSON, JAKIEDA R | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/670,675 | CODEN ET AL. | |
| | Examiner | Art Unit | |
| | Jakieda R. Jackson | 2626 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *02 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. In response to the Office Action mailed March 2, 2007, applicant submitted an amendment filed on June 1, 2007, in which the applicant traversed and requested reconsideration.

### *Response to Arguments*

2. Applicants respectfully disagree that Shanahan fails to disclose assigning corresponding associated parts of speech to words, where assigning comprises applying a plurality of regular expressions, rules and a plurality of disctionaries to recognize chemical name fragments. In particular, Applicant's argue that Shanahan in its entirety is not seen to disclose a lexicon (or dictionary, or thesaurus), which reads on chemical fragments. Clearly, Shanahan is not seen to expressly disclose or suggest "applying a plurality of regular expressions, rules and a plurality of dictionaries to recognize chemical fragments. However, Shanahan teaches a set of dictionaries that are part of the configuration (column 66, lines 35-49) that comprises a chemical formula recognizer. In order for the chemicals to be recognized, there must be a dictionary involved (column 53, lines 6-19). Therefore, Applicants arguments are not persuasive. Further, Applicant argues that Shanahan in its entirety mentions the term "a chemical recognizer" only one time. However, it does not matter how many times that word is mentioned, rather the mere fact that the word is mentioned and that it is part of the invention. Therefore, Applicant's arguments are not persuasive.

Applicant further argues that there is two specific elements respecting chemical names (recognize chemical name fragments and combine chemical name). The Applicants contend that the rejection relies on Shanahan's bare mention of "a chemical name recognizer" as anticipating both these elements must fail. Applicants argue that Shanahan may recognize a chemical formula, but Shanahan provides not details as to how this is done. Imputing the claims chemical name fragment approach is clearly hindsight. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Therefore, Applicant's arguments are not persuasive.

Furthermore, Applicant argues that Shanahan disclose an auto-completion process to complete string fragments. As Shanahan discloses "once auto-completion process is invoked, the string characters typed by the user, hereafter referred as the string fragment or more generally referred to as the entity fragment, is used at 4604 to extract context information using content surrounding the entity fragment in the document content 4203 to which the entity fragment is targeted," (column 58, lines 36-41). Shanahan discloses "Document auto-completion saves a user from having to re-type text (and other document conten such as graphics) and related markup such as

hyperlinks, bibliographic entries etc., by providing suggestions of words that have been previously used in a contextually similar manner," (column 53, line 65 – column 54, line 2). Further Shanahan discloses "After the auto-completion system identifies one or more matches, the sorted results are displayed for user acceptance as shown in the popup window 4708," Thus Shanahan explicitly relates to auto-completion of an entity fragment by prompting the user with suggestions during the "typing" of the entity. The Applicants content that Shanahan is not seen to disclose or suggest "to combine recognized chemical name fragments into a complete chemical name".

However, as Applicants pointed out, Shanahan does not teach an auto-completion method. A fragment can be inputted, i.e. not the full query, and the completer query can be outputted. According to claim 1, the limitation recites combining recognized chemical name fragments into complete sentences. Shanahan teaches a chemical formula recognizer (column 53, lines 7-19) combined with the auto-completion method (column 58, line 49 – column 60, lien 45). Therefore, Applicants arguments are not persuasive. The dependent claims remain rejected for the reasons set forth in the independent claims.

Applicant argues that Brecher is not seen as disclosing or suggesting to combine recognized chemical name fragments into a complete chemical name. However, Brecher discloses that a chemical name is univerted by identifying fragment name boundaries and reordering the name fragments in accordance with a normal form. Therefore, Applicant's arguments are not persuasive.

Applicant further argues that there is not clear indication of motivation for a person to combine Brecher and Shanahan. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, each limitation states the columns and line numbers as why it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inventions. Therefore, Applicant's arguments are not persuasive.

The dependent claims remain rejected for the reasons set forth in the independent claims.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-37** are rejected under 35 U.S.C. 102(e) as being anticipated by Shanahan et al. (USPN 6,732,090), hereinafter referenced as Shanahan.

Regarding **claims 1, 13, 25 and 35**, Shanahan discloses a method, system and computer readable medium, hereinafter referenced as a method, to process a document, comprising:

partitioning document text into a plurality of sentences (parsing techniques that delimit sentences; column 27, lines 4-18 with column 37, lines 28-45 and column 42, lines 5-17);

for each sentence, assigning corresponding associated parts of speech to words (part-of-speech), where assigning comprises applying a plurality of regular expressions (regular expressions), rules (rules) and a plurality of dictionaries (lexicon; column 10, lines 42-65) to recognize chemical name fragments (chemical formula recognizer; column 53, lines 6-19), to combine recognized chemical name fragments into a complete chemical name, and to assign the complete chemical name with one part of speech (column 10, lines 42-65 and column 66, lines 35-49); and

parsing the sentence into its component parts based at least in part on the assigned parts of speech (part-of-speech; column 10, lines 42-65 with column 27, lines 4-18 with column 37, lines 28-45).

Regarding **claims 2, 14, 26 and 36**, Shanahan discloses a method where the complete chemical name is assigned a noun phrase part of speech (noun phrase; column 10, lines 42-65 with column 42, lines 5-17).

Regarding **claims 3, 15 and 27**, Shanahan discloses a method where said plurality of dictionaries comprise a dictionary of common chemical prefixes (prefix) and a dictionary of common chemical suffixes (column 40, lines 17-31).

Regarding **claims 4, 16 and 28**, Shanahan discloses a method where said plurality of dictionaries comprise a dictionary of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65).

Regarding **claims 5, 17 and 29**, Shanahan discloses a method further comprising filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65).

Regarding **claims 6, 18 and 30**, Shanahan discloses a method where chemical name fragments are further recognized by using common chemical word endings (commonly used; column 16, lines 55-67 with column 70, lines 5-23 and column 70, line 65 – column 71, line 2).

Regarding **claims 7, 19, and 31**, Shanahan discloses a method where application of said regular expressions (regular expressions) and rules results in punctuation characters (characters) being one of maintained or removed between chemical name fragments as a function of context (column 10, lines 42-65 with column 42, lines 31-49).

Regarding **claims 8, 20 and 32**, Shanahan discloses a method where said regular expressions comprise a plurality of patterns, individual ones of which are

comprised of at least one of characters, numbers and punctuation (punctuation characters; column 42, lines 31-49 with column 57, lines 26-37).

Regarding **claims 9 and 21**, Shanahan discloses a method where the punctuation comprises at least one of parenthesis (parentheses), square bracket (square bracket), hyphen, colon and semi-colon (column 38, lines 59-67).

Regarding **claims 10 and 22**, Shanahan discloses a method where the characters comprise at least one of upper case C, O, R, N and H (inherent in capital letter; column 38, lines 59-67 with column 49, lines 58-65).

Regarding **claims 11 and 23**, Shanahan discloses a method where the characters comprise strings of at least one of lower case xy, ene, ine, yl, ane and oic (lower case; column 49, lines 58-65).

Regarding **claims 12, 24 and 34**, Shanahan discloses a method comprising an initial step of tokenizing the document to provide a sequence of tokens (tokenized; column 37, lines 28-45 with column 42, lines 5-17 and column 49, lines 58-65).

Regarding **claim 33**, it is interpreted and rejected for same reasons as set forth in the combination of claims 9-11.

Regarding **claim 37**, Shanahan discloses a system where a user of the system accesses the system through a data communications network (network; column 13, lines 22-35).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1-37** are *alternately* rejected under 35 U.S.C. 103(a) as being unpatentable over Brecher (USPN 7,054,754) in view of Shanahan.

Regarding **claims 1, 13, 25 and 35**, Brecher discloses a method, system and computer readable medium, hereinafter referenced as a method, to process a document, comprising:

partitioning document text into a plurality of sentences (parse; column 8, lines 4-18); and

where assigning comprises applying a plurality of regular expressions, rules (rules; column 2, lines 59-65) and a plurality of dictionaries to recognize chemical name fragments (dictionary; column 6, lines 60-67), to combine recognized chemical name fragments into a complete chemical name, and to assign the complete chemical name with one part of speech (chemical name fragment; column 3, lines 14-24), but does not specifically teach assigning parts of speech.

Shanahan discloses a method wherein for each sentence, assigning corresponding associated parts of speech to words and parsing the sentence into its

component parts based at least in part on the assigned parts of speech (part-of-speech; column 10, lines 42-65), to denote the grammatical usage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method wherein it teaches assigning, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 2, 14, 26 and 36**, Brecher discloses a method to process a document, but does not specifically teach a method where the complete chemical name is assigned a noun phrase part of speech.

Shanahan discloses a method where the complete chemical name is assigned a noun phrase part of speech (noun phrase; column 10, lines 42-65 with column 42, lines 5-17), to denote the grammatical usage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method where the complete chemical name is assigned a noun phrase part of speech, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by

automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 3, 15 and 27**, Brecher discloses a method where said plurality of dictionaries comprise a dictionary of common chemical prefixes and a dictionary of common chemical suffixes (figures 7c-7g with column 9, line 52 – column 10, line 30).

Regarding **claims 4, 16 and 28**, Brecher discloses a method to process a document, but does not specifically teach where said plurality of dictionaries comprises a dictionary of stop words to eliminate erroneous chemical name fragments.

Shanahan discloses a method where said plurality of dictionaries comprises a dictionary of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65), to discard un-important words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method where said plurality of dictionaries comprises a dictionary of stop words to eliminate erroneous chemical name fragments, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 5, 17 and 29**, Brecher discloses a method to process a document, but does not specifically teach filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments.

Shanahan discloses a method comprising filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments (stop words eliminated; column 27, lines 28-36 with column 37, lines 28-45 and column 49, lines 58-65), to discard un-important words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Brecher's method comprising filtering recognized chemical name fragments using a list of stop words to eliminate erroneous chemical name fragments, as taught by Shanahan, to provide an improved document enrichment architecture that allows ubiquity use of document enrichment services. Such an improved document enrichment architecture would advantageously provide methods for facilitating the use of such services by automatically attaching, monitoring, and suggesting such services for users (column 2, lines 56-64).

Regarding **claims 6, 18 and 30**, Brecher discloses a method where chemical name fragments are further recognized by using common chemical word endings (suffix; figures 7c-7g).

Regarding **claims 7, 19, and 31**, Brecher discloses a method where application of said regular expressions and rules results in punctuation characters (punctuation characters) being one of maintained or removed between chemical name fragments as a function of context (column 8, lines 4-48).

Regarding **claims 8, 20 and 32**, Brecher discloses a method where said regular expressions comprise a plurality of patterns, individual ones of which are comprised of at least one of characters, numbers and punctuation (punctuation character; column 8, lines 4-48 and column 9, lines 10-51).

Regarding **claims 9 and 21**, Brecher discloses a method where the punctuation comprises at least one of parenthesis (parenthesis), square bracket (square bracket), hyphen, colon and semi-colon (column 8, lines 4-48).

Regarding **claims 10 and 22**, Brecher discloses a method where the characters comprise at least one of upper case C, O, R, N and H (column 4, line 19 – column 5, line 40).

Regarding **claims 11 and 23**, Brecher discloses a method where the characters comprise strings of at least one of lower case xy, ene, ine, yl, ane and oic (figures 7d-7g, lower-case characters; column 3, lines 7-8 with column 6, lines 30-39 and column 7, lines 25-57 and column 11, lines 10-17).

Regarding **claims 12, 24 and 34**, Brecher discloses a method comprising an initial step of tokenizing the document to provide a sequence of tokens (token; column 6, lines 40-67).

Regarding **claim 33**, it is interpreted and rejected for same reasons as set forth in the combination of claims 9-11.

Regarding **claim 37**, Brecher discloses a system where a user of the system accesses the system through a data communications network (column 12, lines 55-61).

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571-272-7619. The examiner can normally be reached on Monday-Friday from 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ
August 10, 2007

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